

Through this column we intend to record the work of innovators in our society who are making and using their own products and technology at home or in small-scale industries. Also we would include some information from ethnobotanical reports. It is hoped that this would lead to further research and acknowledge innovators' innovations.

We also invite our readers to contribute details of their innovations and share their knowledge for common good.

## Decalepis hamiltonii Wight & Arn. – An endangered source of indigenous health drink

S Vedavathy

Herbal Folklore Research Center (HFRC)

B- 23, Vaikuntapuram, Tirupati- 517502, Andhra Pradesh

E-mail: vedavathy@hotmail.com

**Decalepis hamiltonii Wight & Arn.** (Family —*Asclepiadaceae*) is an endemic and endangered plant of Andhra Pradesh. A herbal health drink from its roots is prepared by *Yanadi* tribe of the area. The plant is a liane, locally called *Maredu kommulu* or *Barre sugnadhi* or *Maredugaddalu* (Telugu). It grows in between the rocks and places where there is thick vegetation. Milky latex is present in the entire plant. Each root is 5-10 cm in diameter and 4-10 roots arise from the rootstock. A 2-3 year old plant produce 15-20 kg of roots and one year old plant produces 1-2 kg of roots. Roots are harvested during summer months mostly by the *Yanadi* tribe of Chittoor district and it is the main source of income to them until the agricultural works resumes.

Unfortunately its pleasant scented tuberous roots have landed it in deep trouble. It has such popularity in this area making them almost extinct in the wild. The plant is indigenous to Andhra Pradesh

and extends through out the Eastern Ghats of South India. These people procure and habitually carry the roots with them and chew the same whenever the digestion may seek relief. Besides treating indigestion the roots have been used locally to stimulate the appetite and to relieve flatulence and to act as a general tonic.

### Uses of the roots

Morphologically as well as chemically the plant resembles African liane called *Mondia whitei* (Hook f.) Skeels. Both have similar ethnobotanical uses and presence of 2 - h y d r o x y - 4 - methoxybenzaldehyde an isomer of vanillin is reported from the plants (Thornell *et al*, 2000).

The roots are little bitter and then sweet. It is so

characteristic with a familiar lingering after taste and smell of vanillin, the substance that is in *Vanilla planifolia* Andr., an orchid used in ice-creams, chocolates, drinks, etc. Although vanillin has been synthesized since 1874 natural sources of this flavoring are still in demand and the roots of *Decalepis* can be used as substitute for vanillin.

The drink prepared from roots is locally called as *nannari* or *sugandhapala* or *sarasaparilla*. If available, along with these roots *Hemidesmus indicus* R. Br. (Indian Sarsaparilla) roots are also mixed to get cooling effect. The drink looks like Coco Cola and has vanilla smell. It is moreover a health tonic containing many calories. The drink is medicinal, which cools the system, gives good appetite and acts as blood purifier. This is poor mans drink of the state. Chutney and pickle using lemon juice are prepared from the roots by the rural people and it taste like ginger pickle and consumed by the *Yanadis* along with



Decalepis hamiltonii plants

ovate, flat and comose to facilitate dispersal.

## Harvesting

The roots come to maturity in about 12-14 months after planting depending upon the soil and climatic conditions. The roots can be easily harvested by digging around the plant leaving the central core of the root and stem for regeneration. The plant can be retained up to 4-5 years since the growth is vigorous even with a single left over root. A single plant in a plantation raised by HFRC gave 1-2 kg of fresh roots. One hectare of land requires 25,000 plants. On an average 25,000-40,000 kg of fresh roots can be obtained from one hectare and the dry roots come up to 7500-15000 kg. Approximate cost of one kilo dry roots is Rs 10-20 and each seedling costs Rs 6/-.

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## References

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food for indigestion, constipation and gas troubles. The *Yanadis* are generally robust and never complain about gastric and intestinal disorders. The use of the root may be one of the factors for the absence of such disorders. The drink *nannari* is served especially during special occasions to the people. The roots are sold in important pilgrim centers and local *shanties* at throw away price.

## Cultivation

Herbal Folklore Research Centre (HFRC) observed the necessity of preserving the depletion of this economic plant and attempted its cultivation. It was also realized that for the commercialization of food and health drinks prepared from roots, large amount of raw material would be required.

Loamy soils are well suited for the growth but soils intermixed with stones encourage production of long thick roots. The length and thickness of the root mostly depends on the soil profile rather than the environment. The plant is disease free and needs no special care. Defoliation was noticed during summer months and during that period the tribal people make extensive harvesting.

It can be propagated from seeds as well as vegetatively by means of stem cuttings. For commercial purpose the first method is preferred. As the direct sowing

of seeds in the field does not give good results seedling are raised in the nursery before transplanting in the field. The seeds should be collected from February - March. The seeds have very short viability hence fresh seeds are to be used. The seedbeds of convenient size with irrigation channels are laid out. About 7.5 kg seeds will give enough seedlings to plant one hectare area. The seeds can be raised either in the nursery beds or in polythene bags. Germination starts after about two weeks and may continue for another week. Three months old seedlings having 4-6 leaves are transplanted at a distance of 60 cm × 60 cm in the main field. The plants are irrigated twice a month during hot-dry season and once a month during the winter. The crop can be cultivated under rainfed conditions also. Weeding is done once in first year and later when needed. One hoeing is done usually at the beginning of the growing season. The crop being a liane needs support for its proper growth. For this purpose 4-6 long stakes are used to support the general growth. In large-scale plantations the plants are trailed on wire mesh using stone pillars. The liane stems with their broad obovate leaves climb to the canopy roof where the cymose inflorescences are displayed. The white-villous umbrella shaped flowers splashed with pale yellow edges appear during June-July. After fertilization each fruit develops two follicles. Seeds are thin,



*Decalepis hamiltonii* roots